



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0872; Project Identifier MCAI-2021-00312-R; Amendment 39-21866; AD 2021-26-07]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2020-11-05, which applied to all Airbus Helicopters Model EC120B helicopters. AD 2020-11-05 required repetitive inspections of the tail rotor (TR) hub body for cracks and applicable corrective actions if necessary, and repetitive replacement of the attachment bolts, washers, and nuts of the TR hub body. This AD was prompted by a report of recurrent loss of tightening torque on several attachment bolts on the TR hub body. This AD retains certain requirements of AD 2020-11-05, adds repetitive inspections, requires additional corrective actions, and updates applicable service information. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Airbus Helicopters, 2701 North Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at <https://www.airbus.com/helicopters/services/technical-support.html>. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177. For information on the

availability of this material at the FAA, call (817) 222-5110. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-00872.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0872; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the European Union Aviation Safety Agency (EASA) AD, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2020-11-05, Amendment 39-21130 (85 FR 31042, May 22, 2020), (AD 2020-11-05). AD 2020-11-05 applied to Airbus Helicopters Model EC120B helicopters, all serial numbers. The NPRM published in the *Federal Register* on October 8, 2021 (86 FR 56220). In the NPRM, the FAA proposed to retain some of the requirements of AD 2020-11-05, and proposed to require, within 15 hours time-in-service (TIS) or 7 days, whichever occurs first, performing repetitive inspections of the TR hub body for a crack and depending on the inspection results, removing the affected parts from service. The NPRM also proposed to require inspecting the TR spline flange for corrosion, impacts, fretting, wear, and a crack and depending on the inspection results, removing the TR splined flange from service. For helicopters with 9,000 or more total hours TIS or with unknown total hours TIS, the NPRM proposed to require, within 15 hours TIS or 7 days, whichever occurs first, and thereafter at intervals not to exceed 1,000 hours TIS, removing from service any bolt, washer, and nut installed on the TR

hub body, replacing them with airworthy parts, inspecting the TR splined flange, and depending on the inspection results, removing the TR splined flange from service.

Additionally, the NPRM proposed to require, for helicopters with less than 9,000 total hours TIS, within 1,000 hours TIS or before accumulating 9,000 total hours TIS, whichever occurs first, and thereafter at intervals not to exceed 1,000 hours TIS, removing from service any bolt, washer, and nut installed on the TR hub body replacing them with airworthy parts, inspecting the TR splined flange, and depending on the inspection results, removing the TR splined flange from service. Finally, the NPRM proposed to prohibit the installation of a certain part-numbered TR hub body unless certain actions have been accomplished.

The NPRM was prompted by EASA AD 2021-0069, dated March 11, 2021 (EASA AD 2021-0069), issued by EASA, which is the Technical Agent for the Member States of the European Union, to correct an unsafe condition for Airbus Helicopters, formerly Eurocopter, Eurocopter France, Model EC120 B helicopters, all serial numbers. EASA advises that an inspection of the TR hub body revealed a recurring loss of tightening torque on several attachment bolts. This condition, if not addressed, could result in cracking and potential loss of the TR drive and consequent loss of yaw control of the helicopter.

Accordingly, EASA AD 2021-0069 retains the requirements of EASA AD 2019-0272R1, dated November 18, 2019 (EASA AD 2019-0272R1), which prompted AD 2020-11-05, and requires additional repetitive detailed inspections of the interface between the TR hub body part number C642A0100103 and the splined flange. Depending on the inspection results, EASA AD 2021-0069 requires accomplishment of applicable corrective actions.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its AD. The FAA reviewed the relevant data, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters. Except for minor editorial changes, this AD is adopted as proposed in the NPRM.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Airbus Helicopters Emergency Alert Service Bulletin 05A020, Revision 2, dated February 8, 2021. This service information specifies procedures for repetitive inspections of the TR hub body for cracks and the TR spline flange for cracks and fretting and the appropriate corrective actions.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Differences Between this AD and EASA AD 2021-0069

EASA AD 2021-0069 uses flight hours (FH) for certain compliance times, whereas this AD uses hours TIS. EASA AD 2021-0069 retains the compliance time of November 1, 2019 for certain actions, which is the effective date of EASA AD 2019-0272R1, whereas this AD requires compliance in terms of the effective date of this AD.

Where Note 1 of EASA AD 2021-0069 allows a non-cumulative tolerance of 100 FH to be applied to the compliance times for the initial replacement of bolts, washers, and nuts (Table 1 of EASA AD 2021-0069) to allow for synchronization of the required inspections with other maintenance tasks, this AD does not allow a non-cumulative tolerance to be applied to the compliance times.

Costs of Compliance

The FAA estimates that this AD affects 89 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Visually inspecting each TR hub body for a crack takes about 0.25 work-hour for an estimated cost of \$22 per inspection and \$1,958 for the U.S. fleet per inspection.

Visually inspecting each TR spline flange for corrosion, impacts, fretting, wear, and a crack takes about 0.25 work-hour for an estimated cost of \$22 per inspection and \$1,958 for the U.S. fleet per inspection.

Replacing a TR hub body takes about 2 work-hours and parts would cost about \$16,417 for an estimated cost of \$16,587 per TR hub body replacement.

Replacing a TR spline flange takes about 0.5 work-hour and parts would cost about \$2,950 for an estimated cost of \$2,993 per TR spline flange replacement.

Replacing a bolt, washer, and nut takes about 0.5 work-hour and parts would cost about \$68 for an estimated cost of \$111 per replacement.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive 2020-11-05, Amendment 39-21130 (85 FR 31042, May 22, 2020); and

b. Adding the following new airworthiness directive:

2021-26-07 Airbus Helicopters: Amendment 39-21866; Docket No. FAA-2021-0872; Project Identifier MCAI-2021-00312-R.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2020-11-05, Amendment 39-21130 (85 FR 31042, May 22, 2020) (AD 2020-11-05).

(c) Applicability

This AD applies to Airbus Helicopters Model EC120B helicopters, certificated in any category, all serial numbers.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 6400, Tail rotor system.

(e) Unsafe Condition

This AD was prompted by a report of recurrent loss of tightening torque on several attachment bolts on the tail rotor (TR) hub body. The FAA is issuing this AD to detect cracking and fretting, which if not addressed, could result in potential loss of the TR drive and consequent loss of yaw control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 15 hours time-in-service (TIS) or 7 days, whichever occurs first after the effective date of this AD, and thereafter at intervals not to exceed 15 hours TIS, using a light source and mirror, visually inspect TR hub body part number (P/N) C642A0100103 for a crack in the entire inspection area depicted in Figure 1 of Airbus

Helicopters Emergency Alert Service Bulletin 05A020 Revision 2, dated February 8, 2021. If there is a crack, before further flight, perform the actions in paragraphs (g)(1)(i) and (ii) of this AD.

(i) Remove the TR hub body and each bolt, washer, and nut installed on the TR hub body from service and replace with airworthy parts.

(ii) Inspect the TR splined flange for corrosion, impacts, fretting, wear, and a crack in the areas identified in Figure 2 to paragraph (g)(1)(ii) of this AD. If the condition of the part (including corrosion, impacts, fretting, wear, or cracks) exceeds the criteria as specified in Figure 1 to paragraph (g)(1)(ii) of this AD, before further flight, remove the splined flange from service and replace with an airworthy part.

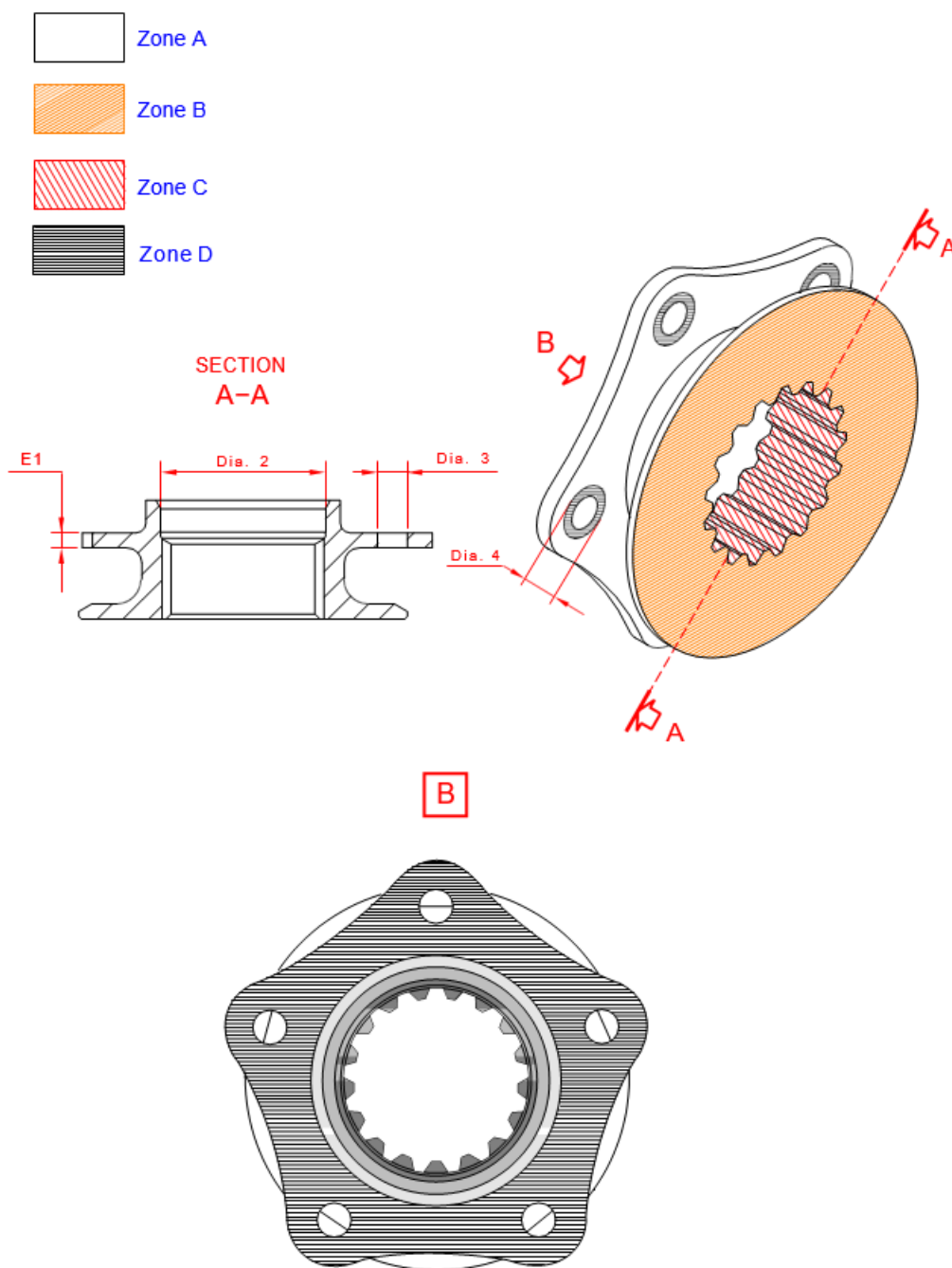
Note 1 to paragraph (g)(1)(ii): You may refer to “Detailed Check - Splined Flange,” Task 64-21-00, 6-5, Airbus Aircraft Maintenance Manual (AMM), dated October 15, 2020, which pertains to the TR splined flange inspection.

Figure 1 to paragraph (g)(1)(ii) – Inspection Criteria for Tail Rotor Splined

Flange

Location as specified in Figure 2 to paragraph (g)(1)(ii) of this AD	Maximum damage, which causes replacement (E1, Dia. 2, Dia. 3, and Dia. 4 are shown in Figure 2 to paragraph (g)(1)(ii) of this AD)
Zone A	Scratch depth > 0.2 mm (0.008 in.). Crack. E1 < 2.75 mm (0.108 in.). Dia. 3 > 6.02 mm (0.2371 in.). Dia. 2 > 33.03 mm (1.3004 in.).
Zone B	Touch-up depth > 0.1 mm (0.004 in.). Crack.
Zone C	Crack. Scratch depth > 0.2 mm (0.008 in.).
Zone D [Dia. 4 = 14 mm +/- 0.1 mm (0.548; 0.555in.)]	Touch-up depth > 0.1 mm (0.004 in.). Crack. E1 < 2.75 mm (0.108 in.).

Figure 2 to paragraph (g)(1)(ii) – Inspection Areas of Tail Rotor Splined Flange



(2) For helicopters with 9,000 or more total hours TIS, or with unknown total hours TIS, within 15 hours TIS or 7 days, whichever occurs first after the effective date of this AD, and thereafter at intervals not to exceed 1,000 hours TIS, remove each bolt, washer, and nut installed on the TR hub body from service and replace with airworthy parts and perform the actions in paragraph (g)(1)(ii) of this AD.

(3) For helicopters with less than 9,000 total hours TIS, within 1,000 hours TIS or before accumulating 9,000 total hours TIS, whichever occurs first after the effective date

of this AD, and thereafter at intervals not to exceed 1,000 hours TIS, remove each bolt, washer, and nut installed on the TR hub body from service and replace with airworthy parts and perform the actions in paragraph (g)(1)(ii) of this AD.

(4) As of the effective date of this AD, do not install TR hub body P/N C642A0100103 on any helicopter, unless the actions of paragraph (g)(1) of this AD have been accomplished.

(h) Special Flight Permits

A special flight permit may be permitted provided that there are no passengers onboard.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

(2) Service information identified in this AD, is available at the contact information specified in paragraphs (k)(3) and (4) of this AD.

(3) The subject of this AD is addressed in European Union Aviation Safety Agency (EASA) AD 2021-0069, dated March 11, 2021. You may view the EASA AD on the internet at <https://www.regulations.gov> in Docket No. FAA-2021-0872.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Airbus Helicopters Emergency Alert Service Bulletin 05A020, Revision 2, dated February 8, 2021.

(ii) [Reserved]

(3) For service information identified in this AD, contact Airbus Helicopters, 2701 North Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at <https://www.airbus.com/helicopters/services/technical-support.html>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the

availability of this material at NARA, email: fr.inspection@nara.gov, or go to:

<https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on December 9, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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